

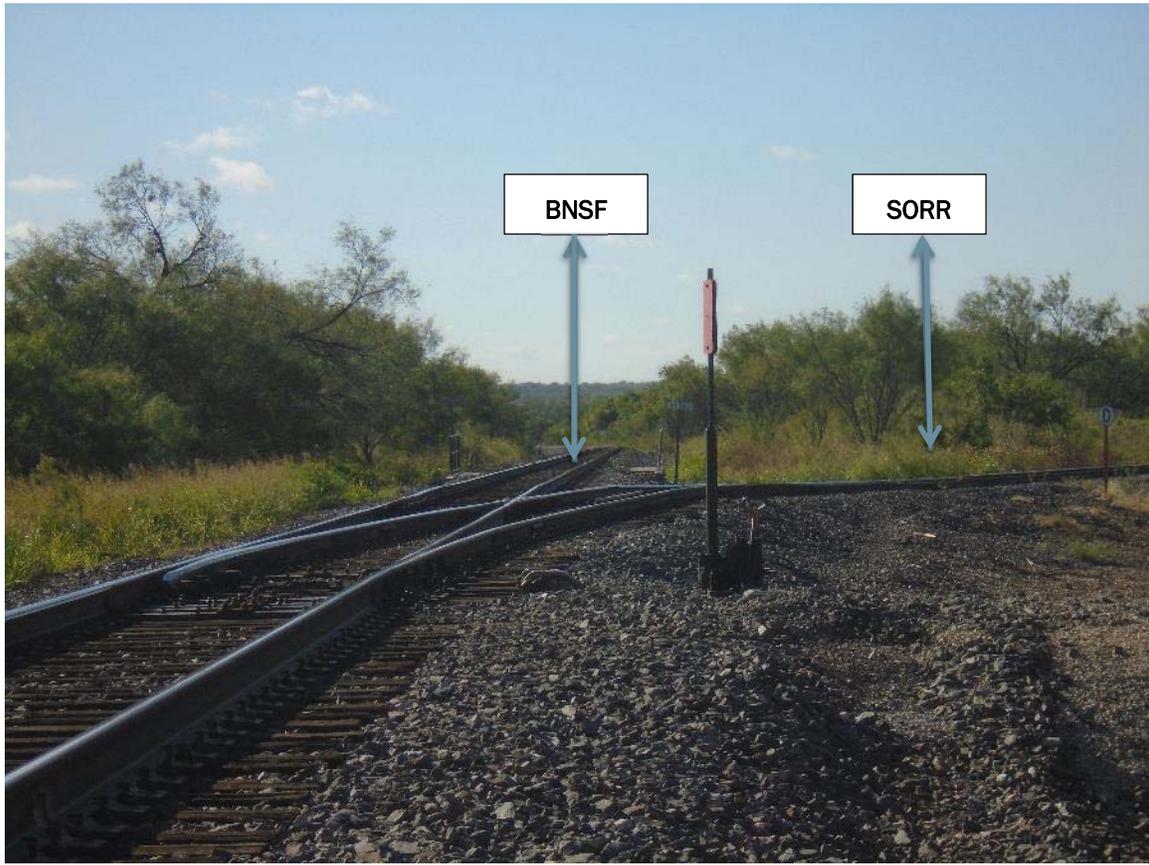


# 2018 South Orient Annual Inspection & Report

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August, 2019

Rail Division



**MP 0 San Angelo Junction Interchange in Coleman**

### **Introduction**

The eighteenth annual review of the South Orient rail line (SORR), operated under lease by Texas Pacific Transportation Company (TXPF), was developed by TxDOT staff in consultation with the management of Texas Pacific Transportation. A map of the SORR is included in the appendix.

### **Financial Review**

The financial performance for the calendar year January 1, 2018, through December 31, 2018 includes reduced income and net profit from rail line operations as compared to the previous year, with declines in sand traffic due to sand quarries opening in the Odessa area. Traffic had previously increased annually since TxDOT began the rehabilitation of the east end of the line in 2009. TxDOT has continued an annual program of track rehabilitation in a generally east-to-west direction and TXPF has contributed to capital improvements in the property. As in previous years, revenues were received from the interchange of cars with connecting railroads, switching services for customers, demurrage fees assessed on shippers and receivers for loading and unloading time periods, freight car storage for other car owners, and lease revenues

assigned to TXPF. Expenses were categorized as operating, general and administrative, depreciation, interest and other.

### Traffic

Shipments due to oil and gas exploration in the region continued to make up the largest share of traffic on the line in 2018. This traffic declined in 2018. Inbound sand received totaled 32,367 carloads, 7,639 less than the previous year. Crude oil shipments totaled 897 carloads for the year, up from 0 for 2017. The total carloads interchanged were 38,449, which is a decrease of 5,308 from 2017. Grain shipments totaled 691 carloads, which is down from 2017 by 58 car loads. Table 1 shows the carloads moved by commodities since 2012.

Traffic began increasing during the latter half of 2009, which is when TxDOT began the rehabilitation of the eastern portion of the line. Annual carloads averaged 2,031 from 2001 through 2009, with dramatic increases through 2017. Traffic has started to slow due to the sand car loads falling off by 7,639 car loads, but the pipe car loads have increased by 1,586. Figure 1 shows the total carloads from 2012 to 2018, with 48,077 being projected for 2018 before the decline in inbound sand occurred.

Commodities	2012	2013	2014	2015	2016	2017	2018	Total
Sand	6,506	15,269	22,906	22,104	25,212	40,006	32,367	164,370
Crude oil	2,214	5,787	1,422	416	1,040	0	897	11,776
Steel	326	404	333	342	303	361	303	2,372
Grain	874	927	196	953	1,369	749	691	5,759
Pipe	0	0	0	1,362	1,406	959	2,545	6,272
Misc	729	1,171	503	726	1,185	1,125	1,286	6,725
Hydrochloric						557	360	917
Totals	12,661	25,571	25,360	25,903	30,515	43,757	38,449	202,216

**Table 1: Carloads by Commodity since 2012**

## Shippers and Receivers

The number of businesses using rail service had increased dramatically since the rehabilitation of the line began in 2009, but there has been some decrease in the sand facilities in 2018. The list of current active shippers below.

MP 37 - Elm Creek Grain, grain (wheat).

MP 37 - Wingate Gin, grain (wheat).

MP 38 - Buddy's Plant Plus, urea, fertilizer.

MP 38 - Muller Building Products, steel.

MP 53 - Kasberg Grain, grain (wheat, sorghum, corn).

MP 60 - Hudson Feeds, molasses.

MP 63 - Gavilon-Western Tower transloading, bone meal.

MP 75 - City Lumber, lumber.

MP 75 - Hirschfeld Steel, steel

MP 715 - Pattison Sand-Pinnacle Sands Facility, silica sand

MP 716 - TriCoastal Trading-at Texas Tank Car, scrap

MP 720 - McCoy's, lumber

MP 775 - Vista Sand-Maalt transloading, silica sand

MP 775 - BNSF logistics, Windmill Components.

MP 790 - Superior Silica Sand, large Tidewater facility under construction, silica sand

MP 791 - Vista Sand-Maalt transloading, silica sand

MP 791 - Fairmount Santrol, silica sand

MP 791 - Pattison Sand-at Fairmount Santrol facility, silica sand

MP 821 - Cooper Natural Resources, hydrochloric acid

MP 836.6 - Plains Crude Oil.

MP 868 - Pattison Sand, Titan Lansing transloading facility, silica sand

MP 868 - U.S. Silica, Titan Lansing transloading facility, silica sand

MP 868 - Prince Agri, Titan Lansing transloading facility, clay

MP934 - Stubbs Quarry (Rock & Asphalt exporter)



MP53 Kasberg Grain



Windmill Towers going to MP 775 for BNSF Logistics



MP 836.6 Plains Oil Facility



Stubs Quarry MP 934, Transloading Asphalt in San Angelo Yard



MP 868 - Titan Lansing, transloading facility, Sulphur Jct.

The facilities that have located on the line since 2009 experienced a steady increase in traffic in the past years, but there has been a decline in frac sand in 2018, which has continued this year. The mining facility at MP934 has installed an asphalt plant on their property and leased a siding track in Rankin for transloading the materials for highway projects. TXPF is working with additional new customers who have expressed an interest in transporting freight on the line which includes additional crude oil facilities, as well as mining for granite, sulphur, and zeolite at other locations.

### Operations and Maintenance

Texas Pacifico (TXPF), the contract operator for the South Orient, is owned by Grupo México. Grupo México is also the majority owner of Ferromex, the largest main line railroad in Mexico. Ferromex connects to the west end of the South Orient via the currently disrupted rail border crossing at Presidio.

TXPF's current Timetable #6 updated July 1, 2019, and the railroad uses the General Code of Operating Rules.

The increased customer base and on-going economic development efforts continue to have a significant impact on TXPF staffing. TXPF now has 59 employees in Texas.

Train crews and front-line managers work out of the San Angelo yard where the railcar storage yard and equipment servicing facilities are located. TXPF's main office is in the city of San Angelo.



**San Angelo Yard Office**



### TXPF Offices in San Angelo

The line between San Angelo Junction and Fort Stockton is covered by regular train operations and some operations to Alpine. They are currently running approximately 10 to 12 trains a week

There are four to six crew starts per day. One crew is based at Fort Stockton and the rest are based at San Angelo. One of the San Angelo crews goes on duty at San Angelo Junction, and another crew works the yard at San Angelo. An additional crew may be based at Fort Stockton. The Fort Worth and Western Railroad delivers cars every day at San Angelo Junction, and three to four days per week there is a second delivery. The BNSF Railway also delivers cars daily at San Angelo Junction and sometimes there is a second delivery from them. Generally, more cars are interchanged with the Fort Worth and Western than with the BNSF.

Texas Pacific offers service on a car load and unit train basis and moves 286,000 gross-weight-on rail carloads between San Angelo Junction and Fort Stockton.

Trains now operate at 40 mph from San Angelo Junction to San Angelo (MP 3 to MP 69) west of San Angelo to Sulphur Junction (MP 715 to MP 880) is 25 mph. The 12 miles from Sulphur Junction to Fort Stockton have been rehabbed and 115# rail installed to allow in the increase of speed on this section. The railroad west of Fort Stockton to Presidio is not operated regularly and is classified as FRA Excepted Track. TXDOT has a project that will be letting in October 2019 to upgrade the portion between Paisano Junction and the international bridge (mp956.7 and mp1029) to upgrade it for regular

service for the reopening of the international railroad bridge at Presidio and reestablishment of the interchange with Ferromex on the Mexican side.

TXPF has 24 locomotives leased from CIT. Three are MP15 model switchers, 7 are GP38 and GP40 model four axle road locomotives, and the remaining 7 are SD60 and 10, SD90 model six axle road locomotives. The ten SD90 units are equipped for distributed power operation. Locomotive maintenance and servicing is performed by WABTEC.



**MP 771 - Westbound TXPF freight train led by an SD90 4,300 hp locomotive**

TXPF uses a number of other contractors. Balfour Beatty is the track maintenance contractor. Additional contractors are used for rehabilitation projects. Quality Signal handles signal maintenance, almost all of which is highway grade crossing signals. ASK Engineers is the bridge contractor. An ultrasonic rail flaw detector covers the line twice a year and vegetation control is performed approximately twice a year.

### Infrastructure

Between 2009 and 2018, 203 miles of South Orient's 391 miles of line were rehabilitated by TxDOT. This program started at the east end of the line at San Angelo Junction and proceeded west to MP 847 at the Crocket County line. The work has consisted of tie

replacement, some rail replacement (mostly with continuously welded rail), new ballast, surfacing and lining, upgraded road crossings, plus bridge and culvert repair and replacement. Some of the rail which was replaced was 70, 85 and 90 lbs to the yard and 100 years old. The replacement rail was a minimum of 115 lbs per yard. TXPF has also performed additional rail replacement and bridge work with these limits, independently of the TxDOT work.

TXPF has replaced the last of the 85# rail on the San Angelo sub between mp3 and mp69 with 115# CWR. They have installed 15 miles of rail this year and installed 8,000 ties, and 13,000 tons of ballast. They have extended the crossing signal approaches and increased the class of track to class three, and are running 40 MPH. They have set some permanent speed restriction through the towns of Ballinger and Miles at 15 MPH.

TXPF has replaced 9 miles of rail from Sulpher Junction to Ft. Stockton, replacing the 70# existing rail with 115# and 136# rail, installed 4,500 ties and 6,000 tons of ballast. This section of track is now class two (25 MPH).

TXPF has upgraded 19 bridges between MP 3 and MP 930 from timber stringer cords to steel H beam stringers and this increase's the bridge loading rates. They have done extensive repairs to 39 bridges within these limits, ranging from cap replacement to pile replacement.



**MP 777.9 - Bridge repair, replaced wooden stringers with steel girders**

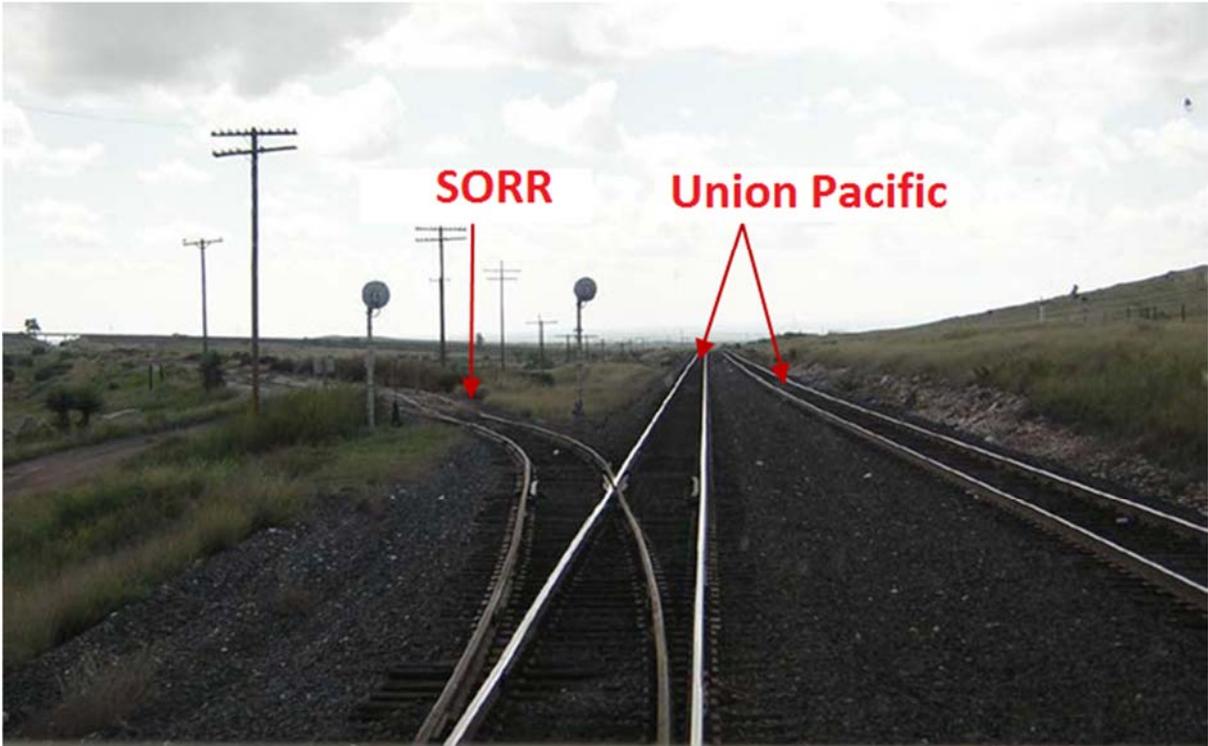
TxDOT's most recent project was completed in May 2019., TxDOT installed 32,572 crossties, 483 bridge ties, 11 timber crossings were installed and 6 concrete crossings, TxDOT spread 7,000 tons of ballast, and surfaced 37.4 miles of track. The cost of the project was 6,581,742.

The objective of the rehabilitation programs is to have a main line that efficiently supports existing and anticipated levels of traffic and conforms to FRA Class 2 track standards. TxDOT's agreement with TXPF is that TXPF maintain the rehabilitated portion of the railroad to the upgraded condition at TXPF's expense.

At present, the 137 miles of line beyond Fort Stockton has one customer at MP 934 Stubbs Quarry that gets random service. The speed is restricted to no more than 10 mph, due to 70# rail. The last revenue freight train to operate all the way to Presidio ran in 2006. On occasion, freight trains have operated on this part of the railroad in recent years. In 2016, pipe was shipped to Belding, 11 miles beyond Fort Stockton, in 2017 Stubs quarry opened just north of Alpine at mp 934 and they have been exporting asphalt to San Angelo yard for transloading. TXPF moved 596 carloads of pipe to MP 964 for an oil and gas project in 2016. This traffic required the use of the 11 miles of trackage rights between Alpine and Paisano Junction on the Union Pacific's Sunset Route main line. The tracks and signals providing access to the Union Pacific's Sunset Route main line remain in service.



**MP 945.6 – Approaching westbound home signals at UP interlocking, Alpine Jct.**



MP 956.76 - Paisano Junction (South Orient curving to the left, UP straight through)



**MP 957 - Eastbound distant (approach) signal to Paisano Jct.**



**MP 968.0 - South of Paisano Junction**

The line between Paisano Junction and the international bridge at Presidio has been subject to occasional wash outs and bridge damage. Minimal repairs and vegetation control have been made to keep the track passable by light equipment such as hi-rail vehicles.



**MP1005.4 Washout**



**MP 1019 - largest bridge on South Orient: 1,224' long; 73' high**

Nevertheless, the section of track between MP 968 and Presidio still displays the benefit of TxDOT's rehabilitation project during 2005 and early 2006. Over 37,000 ties were installed with associated ballast and surfacing in this segment of the line.



**MP 1024.8 – Curved track**

At Presidio, the U.S. portion of the international bridge was destroyed by fire in 2008 and 2009. A portion of the Mexican part of the bridge has also been severely damaged. The International Boundary and Water Commission made improvements to the levee system in Presidio which has resulted in the tracks being buried in the levee. The entire bridge will need to be rebuilt to a higher elevation as the levee was raised nine feet since the bridge saw its last train operating over it in 2006.



**MP 1029 - Timber Structure North of Levee**



**MP 1029 - Track Buried in Levee**



**MP 1029.2 - Remaining structure (Mexican portion) of the international bridge**

Texas Pacifico was responsible for the Bridge reconstruction and has completed the construction of the new bridges in July 2019 with the railroad infrastructure in place. TxDOT is coordinating the ancillary facilities required by US Customs and Border Protection (CBP) for inspecting the trains when they enter the country.



**MP 1029 bridge north of the levee.**



### **MP 1029 – International bridge completed**

TXDOT is currently developing a rehab project between mp956.7 (Piasano Junction) and mp1029 (The international bridge in Presidio); construction is preliminarily scheduled for summer 2020. The project will consist of 15,500 ties, 4,800 ton of ballast, 33 timber crossings, 4 concrete crossings, 45 bridges will be rehabilitated up to class 2 standards, and some rock cut clearing and drainage issues. This rehab work will allow for the track to be put back into service and allow for train movement into Presidio and then into Mexico.

### **Recommendations**

TXPF should continue to increase their customer base and aggressively pursue additional traffic. Both TXPF and TxDOT should continue to pursue funding for the rehabilitation of the line west of Sulphur Junction and the restoration of traffic across the border at Presidio.

### **Conclusions**

TxDOT and TXPF have made significant investments in the improvement of the east end of the line which has increased train speeds and capacity. TXPF's pursuit of new customers has resulted in dramatic increases in traffic over the years, and their efforts to adapt to changing economic conditions have kept the South Orient Rail Line in operation and profitable. The public-private partnership between TxDOT and TXPF has revitalized a rail corridor that was slated for abandonment, resulting in improved transportation efficiency, economic development opportunities, increased employment in the region, and improved safety.

## Appendix

- A. Conditions and Upgrades by Line Segment up to July 2019
- B. Map of the South Orient Railroad

### Appendix A - Conditions and Upgrades

#### MP 0 – 72 San Angelo Subdivision

1. 90# jointed, 115# CWR,136# CWR rail manufactured 1917 – 2017.
2. 20 Miles 115# ,136# CWR installed by TXPF( 2016-2017)
3. 18,047 grade 5 ties installed by TXPF, (2003 – 2008)
4. 8,400 grade 5 ties installed by TXPF (2016 - 2017)
5. 27,500 tons of ballast placed by TXPF (2016 – 2017)
6. 20 Miles of surfacing done by TXPF (2016 – 2017)
7. 3,500 of track undercutting done by TXPF (2016 – 2017)
8. 2 = #10 115# turnouts installed be TXPF(2016)
9. 64,670 ties installed by TXDOT, (2009 – 2012)
10. Replaced worn rail with CWR in curves 4,5,6,24,27,28,36,39,40,41, by TXDOT (2009 – 2012)
11. 92 grade crossings reconstructed by TXDOT, (2009 – 2012)
12. Grade crossing renewals MP5.49, MP11.3. TXDOT (2016)
13. Grade crossing renewals MP6.11, MP67.16 TXPF (2016)
14. 1,393 ties replaced on open deck bridges by TXDOT, (2009 – 2012)
15. Misc. bridge repairs by TXDOT, (2009 – 2012)
16. Misc. bridge repairs by TXPF, (2016 – 2017)
17. 7.6 miles of new 136# CWR relay, 8,000 ties, 12,000 tons of ballast between MP 7 and MP 35, TXPF (2015)
18. Bridge Management Program – 29 bridges repaired between MP 4 and MP 910.9, (2015)
19. Replacement of timber stringers with HP steel stringers on multiple bridges TXPF (2016 – 2017)
20. Bridge replaced with CMP culverts at MP22.4 by TXDOT.
21. Bridge replaced with CMP culverts at MP23.1 by TXPF.
22. Timber box culvert replaced with CMP culvert at MP45.5 by TXDOT.
23. 7300 LF Fogelman siding constructed by TXPF (2015)
24. Signaled crossings installed MP70.3, MP61.3 by TXDOT, (2015 – 2016)
25. Ultrasound rail inspection and repairs done by TXPF, MP 0 to 882, (2015)
26. TXPF 2017 upgrades ( 21 miles 115# CWR, 5,400 ties, 785 Ft of crossing rehab, 11 bridges rehabbed, 27,00 tons of ballast placed).
27. TXDOT installed crossing signals at SH158 in Ballinger.
28. TXPF track upgrades 2018, ( 15 track miles of 115# rail, 8,000 ties, 13,000 ton of ballast, 3 new 115# number 10 turnouts installed, 11 bridges rehabbed ).

### San Angelo Yard

1. 7,685 ties installed by TXDOT, 2010 – 2011 rehab
2. 4,548 tons of yard ballast installed (TXDOT)
3. Repairs to 18 yard switches (TXDOT)
4. 2,000 ties installed by TXPF (2016)
5. 30 switch stands replaced with ergonomic design (TXPF)
6. Wye curve track replaced with 136# rail panels (TXPF)
7. Badger Mining sand unloading facility in yard
8. Canopy installed over fuel bay, drainage improved, (2015)

### MP 712 – 945 Big Lake Subdivision

1. TXDOT rehab 2018 ( 32,572 ties installed, 11 timber crossing's, 6 concrete crossing's, 483 ties on four bridges's, 34.7 miles of surfacing ).
2. TXDOT rehab 2017 ( 38,800 ties, 12 timber crossing's, 6 concrete crossing's, installed new ties on 13 bridges, placed 10,000 tons of ballast).
3. 8,324 ties installed by TXDOT, (2010 – 2012)
4. 112# - 131# mixed wts jointed rail between MP722 – MP737
5. 112# - 131# mixed wts CWR between MP737 and MP846
6. 500 Ties installed between MP715 – MP721.5. (2015)
7. 12,500 Ties installed 5,000 tons of ballast, 402 LF of grade crossing renewal and 18 miles of surfacing completed by TXDOT. (2015)
8. 12,000 Ties installed 4,000 tons of ballast, 7 timber crossing's, and 18 miles of surfacing completed by TXDOT. (2016)
9. 24 grade crossings reconstructed with new track and concrete surfaces through San Angelo (TXDOT)
10. MP 715.8, location of SESCO superfund site adjacent to ROW
11. 589 ties replaced on open bridge at 716.6 (TXDOT)
12. Replaced fire damaged bridge at 715.1 with concrete structure (TXDOT)
13. 88 ties installed by TXPF, (2004)
14. Ties in good condition up to MP 757, then poor to fair condition (limited # of good) through MP 845
15. Signal Crossing installed MP 771.56, 2015 (TXDOT)
16. 131# CWR manufactured in 1984 (132# CWR 811 to 815)
17. 4,471 ties installed by TXPF, 2004 (MP 802 thru 855.6)
18. 70# jointed rail manufactured 1912 between mp869.7 – MP945
19. 20,007 ties installed by TXPF, 2004
20. 9,615 ties installed by TXPF, early 2013

21. 390' rail relay by TXPF, early 2013
22. MP 883 to MP 962, 22 bridges repaired, 2015
23. Timber stringer's replaced with HP steel stringers on multiple bridges by TXPF. (2016 - 2017)
24. Misc. bridge repairs on most bridges in this section. TXPF (2016 - 2017)
25. TXPF rehab 2018 Sulpher Junction ( 80,000 LF of 115# rail, 17,600 LF of 136# rail, 4,650 ties installed, 6,000 ton of ballast installed, 9 miles of surfacing).
26. TXPF made various repairs to 37 bridges between San Angelo and Ft. Stockton.
27. TXPF upgraded 21 bridges from timber stringer's to steel H beam stringers to increase the loading rates.

### **MP 957 - 1029.1 Alpine Subdivision**

1. 90# jointed rail manufactured 1929
2. 3,362 ties installed by TXPF, 2003
3. Ties in poor to fair condition between MP957 and MP968.
4. 34,426 ties installed between MP968 and MP1029 - TXDOT 2006
5. Remaining ties in fair to good condition
6. MP 985.9 channel north side of bridge continues deterioration.
7. 3,125 ties installed by TXPF, 2003
8. All rock cuts in need of drainage improvements - silting in
9. Excepted track designation
10. Washouts at MP 1007.2; 1005.6 repaired by TXPF. (2016)
11. International bridge burned down south of levee, Feb 2008; north of levee, March 2009
12. Presidio Depot burned down February 23, 2011
13. The international bridge has been reconstructed with steel and concrete and was completed July 2019.

Appendix B - Map of the South Orient Railroad